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ABSTRACT

This monograph is a "how-to" manual on responsibility center budgeting (RCB) and responsibility center management (RCM) in the context of Canadian and U.S. institutions. It explains how RCB/RCM works in practice and discusses some of the problems encountered in implementing this strategy at a number of Canadian and U.S. universities. The paper reviews the basic elements of RCB/RCM, which includes the calculation of all revenue generated by an academic unit, recalibrated periodically to ensure the reliability of cost information; the advantages of RCB/RCM in exposing costs that are often known but not recognized; the problems and disadvantages of RCB/RCM, including an institution's assumption that it has more knowledge of costs than it actually does have; how to install and costs of RCB/RCM, noting the need for a long-term commitment to the principles of RCB/RCM and a long-term understanding of markets and program costs; and the relationship of RCB/RCM to institutional plans and mission statements. In concluding the paper some RCB/RCM do's and don'ts are offered, along with a brief discussion of the future of RCB/RCM. A series of charts on central overhead model methodology, as well as financial worksheets are included. (Contains 36 book/journal references and 23 institutional reports on RCB/RCM.) (CH)

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A Primer on Responsibility Centre Budgeting and Responsibility Centre Management*

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Introduction

Within the last decade several major universities in the United States and Canada have adopted Responsibility Centre Budgeting (RCB) and Responsibility Centre Management (RCM). As early as the 1970s some universities, before an RCB/RCM taxonomy was developed and elucidated by Edward Whalen at Indiana University (Whalen, 1991), had implemented certain aspects of what is now understood to be encompassed by RCB/RCM.

Responsibility Centre Budgeting and Responsibility Centre Management (RCB/RCM) are now generic terms. At the University of Michigan, RCB/RCM is called Value Centered Management. At Indiana University, the term Responsibility Center Budgeting is no longer used; only Responsibility Center Management is used, as is also the case at UCLA. The comparable term at

* A more extensive and theoretical discussion of RCB/RCM based on this research will appear in Higher Education Management.

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Ohio State University is Incentive Based Budgeting. At the University of Illinois , Urbana-Champaign, the phrase Mission Focussed Budgeting and Planning is used. The University of Southern California refers to Revenue Centre Management. RCB/RCM, expressed at the school level, is sometimes called School-Based Budgeting, and has close connections to the charter school movement in Alberta and elsewhere (Barlosky & Lawton, 1995).

Basic Elements of RCB/RCM

The first and most important element of RCB/RCM methodology is the calculation of all revenue generated by an academic unit. This includes, obviously, revenue from tuition fees and endowments earmarked for the unit. But, perhaps less obviously, it may also include a share of undesignated endowment and gifts, a share of undifferentiated operating grants, a share of proceeds from the sale or development of university assets, and a share of net revenue generated by university ancillary or auxiliary operations. The revenue thus calculated represents the resource base available to the unit. The amount is recalibrated annually to reflect changes in levels of activity that generate revenue, and changes in government funding. Periodic recalibration is important for two reasons: first, it ensures the credibility of incentives and, second, it ensures the reliability of information about costs.

The next and equally important step is the assignment of centrally budgeted indirect costs and overheads to the academic unit. Cost centres are identified. They typically include:

- institutional administration, governance, and management
- development and alumni relations
- financial management
- human resources management
- internal audit
- academic support services (for example, libraries and academic computing)
- student services
- academic administration (for example, research administration)
- occupancy costs
- debt service
- taxes, fees, and levies

These cost centres are broken down and attributed to academic divisions on the basis of an allocative mechanism appropriate to the individual cost centre. For example, financial management costs are assigned on the basis of gross expense budgets, student services on the basis of student population, and human resources on the basis of faculty and staff population.

The revenue base less the indirect and overhead cost allocation then constitutes the net available resource base that the academic unit can apply to its array of academic programs and support

activities. However, and very significantly, because the allocation of indirect and overhead costs is transparent and systematic, academic units can make changes in their operations in order to reduce those costs.

In summary, RCB/RCM rests on a few basic operating principles:

- All costs and income generated by each college, faculty, or department are attributed to that unit, appear in its budget, and are under its control.
- Incentives are created and monopolistic barriers removed to allow each academic unit to increase income and reduce costs according to its own academic plans and priorities.
- All costs of administrative and service units are "grossed up" and attributed to academic units. No costs are left unattributed, and the attributed costs themselves include overheads and indirect costs. (For example, the attributed costs of the human resource department include its occupancy costs).
- Decisions about prices (tuition fees) and volume (enrolment) are devolved to the academic units.
- Decisions about optimal balances between costs and revenue are made by the academic units. They set priorities. They link plans and budgets.
- Restrictions on line-by-line budgets are relaxed or eliminated. Each academic unit allocates the global revenue base available to it.

The Lessons of Trial and Error

The basic principles on which RCB/RCM have been known and understood for some time, even if the specific RCB/RCM terminology is a more recent development. The theory of RCB/RCM has been described quite well. (Brinkman, 1993; Whalen, 1991). The evolution of RCB/RCM as a formal concept is quite varied. In some cases, like Indiana University, RCB/RCM arose from a fully developed plan that was devised before RCB/RCM was introduced. In other cases, like the University of Toronto, the development was more evolutionary as RCB/RCM was applied to only some major faculties instead of to all faculties. In other universities, like the University of Michigan, RCB/RCM applies fully to expense but only partially to revenue.

This primer takes a practical perspective. It is a "how to do it manual" that asks how RCB/RCM works in practice, and what problems are encountered in the actual implementation of RCB/RCM at the following institutions, all of which have implemented RCB/RCM to some degree: Indiana University, the University of Toronto, the University of Michigan, the University of Illinois at Urbana-Champaign, the University of Minnesota, the University of Pennsylvania, the University of California — Los Angeles, the Ohio State University, Cornell University, the University of Southern California, Clemson University, Worcester Polytechnic University, and Washington University.

The universities that have put RCB/RCM in place have discovered that it offers a number of advantages and disadvantages, some of which were anticipated and some of which became evident only after a period of trial and error.

Advantages of RCB/RCM

RCB/RCM emphasizes and exposes costs that are often known but not recognized, or are deliberately not known because of their strategic implications.

While RCB/RCM demands accuracy and a sound methodology for attributing indirect and overhead costs, its ultimate purpose is not to account for costs. There are other reasons for an institution's wanting to know about its cost and income structures. The most obvious of these reasons are to account fully for the costs of research and to ensure that auxiliary or ancillary services that are supposed to be self-funding really are. Less obvious but perhaps ultimately more important is to understand better the dynamics of marginal costs and marginal revenues. In the United States the National Commission on the Cost of Higher Education emphasized the importance of better understanding costs so that they can be better controlled (National Commission, 1998). Because of the way in which research is funded in the United States, American universities that have experimented with RCB/RCM had a prior interest in planning and budgeting schemes that measured and exposed the full costs — direct, indirect, and overhead — of research.

Although a full accounting of cost and revenue is the first and essential step in the RCB/RCM process, it is not the ultimate step. First, RCB/RCM exposes all costs, even for programs and services that are unquestionably necessary and valuable, and for those very reasons are often unexamined, especially in Canadian universities in which there is a conceptual understanding that the costs of research and instruction can be quite different but in which there are few practical separations of those costs. If one considers that the basic political economy of any university is to optimize the intersection of quality and cost for every program, recognizing the cost structures of high quality programs is just as important as recognizing those of marginal programs. It is equally important to recognize the different cost structures of instruction and research.

Second, RCB/RCM, by assigning responsibility for all costs to the program level, is a key means of translating between budgets and plans. Perhaps more than any other management device, RCB/RCM forges strong and realistic links between planning and budgeting. Thus the idiom by which RCB/RCM exposes and expresses costs is important in and of itself. While linking planning and budgeting is a chronic problem for all colleges and universities, it is a particular problem for many Canadian institutions because of the severe cut-backs in public funding that many of them have suffered in the last decade.

Third, because RCB/RCM has a "bottom line" that forces the reconciliation of all costs and revenue by program or service, it is not possible to mask certain costs or shortfalls in revenue. In several universities that have put RCB/RCM in place this characteristic has made a particular difference for research institutes and centres, ancillary services, and other programs that were

presumed to be self-funding. In terms of budget planning, RCB/RCM has a "nowhere to hide" effect which can be as unpopular as it is revealing.

RCB/RCM motivates entrepreneurial behaviour and the generation of revenue.

In most other institutional planning and budget regimes, the generation of revenue is regarded mainly as the responsibility of the university's administration. This is particularly true of Canadian universities. Admissions offices recruit students to ensure that targets for revenue from tuition fees are met. Presidents lobby governments for operating grants. Vice-presidents and development officers organize fund-raising campaigns, cultivate philanthropic foundations, and secure research support. Deans participate in these activities now and then, but the expectation remains that securing revenue is mainly the administration's job. While various forms of performance budgeting or benchmarking may come into play in setting college, faculty, and departmental budgets (Garner, 1991), those budgets are predominantly expense budgets, and are planned and controlled as such. Revenue is collected centrally and allocated in the form of expense budgets, usually with no direct correlation to sources of revenue. To academic divisions, most services — for examples, libraries, media centres, or campus security — are free goods.

Because income as well as cost is attributed to colleges, faculties, or departments under RCB/RCM, the effect on principals, deans, or chairs is virtually immediate: the generation of revenue counts. Mistaken decisions or even wishful thinking about costs versus benefits makes real differences close to home. Surpluses may be carried forward under RCB/RCM, but so are deficits, which otherwise might be written-off as academic bad luck.

The effect, however, is as subtle as it is immediate. The simple algorithm that more students means more revenue becomes complex as, for example, when marginal instructional costs or, for another example, space costs come into play.

RCB/RCM locates decisions about the allocation of resources where there is the most knowledge to make them intelligently.

For the past several decades managers and planners have debated the merits of "top down" planning versus "bottom up" planning as if the choice between them was mutually exclusive (Kail, 1988). In many cases it indeed was. Moreover, the cases in favour of one or the other were often political, aimed in the first instance at securing acceptance of a plan or budget through various levels of participation, or at ensuring compliance through authority. These debates of course begged a question about the quality and soundness of plans in favour of the feasibility of their implementation.

"Sapience" is a term that today is used infrequently, and even then seems abstruse. But it is particularly apt in describing the effect of RCB/RCM on decision-making in universities. Some descriptions of RCB/RCM use the term "proximity" instead of sapience (Whalen, 1991). James March refers to the "limited rationality" of large organizations (March, 1994). Instead of construing "top down" versus "bottom up" as an either-or choice, RCB/RCM treats them as the

outer limits of a continuum in between which the quality of decision-making, especially about plans and budgets, may be optimally located at many different points.

In large, complex institutions — like the typical Canadian research-intensive university — the president and his or her administration usually have the authority to make specific decisions about the allocation of resources to colleges and faculties, and to various services, but may not have the requisite sapience to do so as crucial decisions about plans and budgets are divorced from the reality of scholarship and program delivery. These allocations involve more than finance. They may also involve space, library acquisitions, or computer access.

RCB/RCM, especially RCM, presumes that in terms of sapience the university is not a hierarchical pyramid. Instead, RCB/RCM presumes that the capability to make some decisions is greater lower in the organizational structure, and that those are often decisions about the allocation of resources and about the trade-offs between income and expense.

Unfortunately and perhaps ironically, this advantage of RCB/RCM becomes more salient as the wealth of the institution declines. Deferred maintenance is an especially revealing example in Canadian universities. Physical plant administrators and auditors typically use a variety of formulas to measure the extent to which the value of capital assets have declined due to inadequate maintenance, which is due in turn to reduced budgets for building maintenance and upkeep. There are differences of opinion about the appropriate formula for measuring deferred maintenance (Rush, 1991), but virtually every one of them produces liabilities that are far beyond the capacities of normal operating or capital budgets to resolve. Setting safety and other code compliance aside, most university administrations (as well as provincial governments) have great difficulty setting plans and budgets for reducing deferred maintenance backlogs when available funding constitutes only a small fraction of the overall amount required.

RCB/RCM, in practical effect, puts the question of priorities to the principals and deans who occupy the buildings and facilities in question, and who both presumably and reasonably know best how the condition of the buildings affects the operation of their programs and services. This, of course, cannot reduce the costs of deferred maintenance. It does, however, better allocate whatever scarce funding is available to correct the problem.

RCB/RCM encourages a "buy in" to planning and the acceptance of the need to plan.

It has become nearly axiomatic that the first problem in planning, particularly planning that involves reallocation of resources, is convincing academic managers and faculty that there needs to be a plan, and that once there is a plan that it should be taken seriously (Bryson, 1988; Keller, 1983; Lang, 1988).

Typical reactions to the heralds of the need to plan are that:

- There is no real problem.
- The problem is external; the administration should do a better job raising funds.

- The problem is an artifact of the way the university organizes its financial statements (Gordon & Charles, 1997; Winston, 1992).
- If there is a problem, it is that the costs of administration and other institution-wide services are too high. Therefor no reductions need to be made in academic budgets.
- Plans and budgets aren't sufficiently linked to allow individual academic units to depend on them. Decisions about resources will still be made one year at a time, and therefor plans need not be taken seriously.

Because of the form and detail of university budgets under RCB/RCM, the institution's financial condition, including the conditions of its various parts, is obvious and largely undebatable. Thus while there may be and usually is considerable debate about the appropriate planning and budgeting solutions, there is under RCB/RCM broad understanding of the problem and acceptance of the need to solve it.

RCB/RCM reduces the scale of planning and decision-making in large, complex institutions.

RCB/RCM is to large scale institutional master planning as distributed computing is to main-frame computing. RCB/RCM redistributes responsibility for planning and budgeting. In this context "redistribute" does not simply mean "relocate" the planning process intact. The central process is disassembled and redistributed. Some of it remains central or "top down" but other parts are moved to new and varied points on the "top down/bottom up" continuum.

The result is a series of plans and budgets which, when take together like an anthology, form an institutional plan which is of value to governors and government. But each college or faculty need understand only its own plan and budget. Moreover, unlike other budget plans that are developed "bottom up," the RCB/RCM plan does not make any given local plan contingent on other local plans, which is often the case in large-scale planning exercises, and which often is an obstacle to the successful linking of plans and budgets (Griffin & Day, 1997; Schmidtlein, 1989).

For some institutional services — for example, physical plant — the institutional plan can be silent as the demand for service is defined by colleges, faculties, or departments as purchasers of the service. Another way of thinking about this is to understand that most academic and administrative services under conventional forms of budgeting and management operate in centrally controlled supply-side institutional economies. RCB/RCM creates demand-driven buyers markets.

RCB/RCM encourages the creation of markets as well as stimulating responses to markets.

Educational planning often revolves around scale and capacity. Demographic change will in time elicit educational change. Whether these changes occur rapidly or slowly, they are essentially reactions, which RCB/RCM may accelerate. But RCB/RCM also stimulates an interest in finding new markets even in the absence of demographic change

Privatization and marketization are controversial concepts in the public sector, especially in the public educational sector, ranging from vouchers, to charter schools, to radical revision of degree-granting legislation for higher education (Clark, 1998; Marginson, 1997). These, of course, are concepts that operate at the system or jurisdictional level. RCB/RCM is, in practical effect, the institutional version of marketization.

Whatever the arguments for or against privatization and marketization — and there are many (Slaughter & Leslie, 1997) — RCB/RCM can produce very similar effects in terms of the institutional behaviours that lead to improving the fit between social need and economic demand on one hand, and educational diversity and supply on the other hand. This happens because, to the extent that improving the supply/demand fit produces additional revenue, the benefit accrues principally to the college or faculty that offers new or better programs, or expands capacity.

A word of caution about RCB/RCM's capability to encourage market behaviour: the experience of some institutions indicates that market potential is not uniformly or universally distributed among academic programs. For some programs and services the potential for marketization is so minor that it mutes the positive effects of RCB/RCM. This is somewhat more a problem in Canadian universities than in American universities. The combination of large geographic scale and a relatively small dispersed population has meant that many Canadian institutions have not been able to realize as many economies of scale as their American counterparts. A practical consequence is a larger number of excellent or essential programs that are so small as to require subsidies.

RCB/RCM encourages interest in the identification and cost of "backrooms".

Universities, colleges, and schools have a variety of administrative and operational services which under conventional approaches to planning and budgeting are assumed to be distinctive, if not to the individual institution at least to the particular educational sector. Moreover, with a few exceptions, these services are regarded by those who use them as free goods. While their costs are known in the aggregate, their costs to any given faculty or department are not known. Those costs, whether broadly known or not, do not usually include indirect costs and overhead costs. So, their costs, like those of their academic counterparts, are understated.

While these services are often scrutinized carefully under various planning and budgeting regimes — most notably zero-based budgeting — that scrutiny is usually in the form of comparisons or benchmarking which involve the same services at other institutions (Rush, 1994). So university libraries are compared to university libraries and university physical plant departments are compared to university physical plant departments, even if their respective institutions are not really peers.

RCB/RCM, when deployed to its full extent, can break the local intra-institutional monopolies that these services enjoy. Markets are created, sometimes within the institution and sometimes outside the institution. An intra-institutional market, for example, is the acquisition and cataloguing of books which one library might do for another library for a fee. But that same example could apply outside the institution if the arrangement were between, for example, a

university library and a metropolitan reference library. Those Canadian provinces that have experimented with various forms of amalgamation in the public sector, particularly Ontario and Nova Scotia, seem attracted to this sort of marketization.

Other services under RCB/RCM might be purchased from the local market. For example, faculties or departments might hire local contractors to do minor building alterations instead of having these services provided by the university's physical plant department. This effect of RCB/RCM can transform the physical plant department, at least partially, from the role of "in house" contractor to the role of building code inspector.

The point here is not to enumerate services that might be offered differently under RCB/RCM. Instead, the point is to illustrate the effect of RCB/ RCM on the way in which services are viewed. Once the costs of services are fully known and attributed, and once faculties and departments are enabled to purchase services wherever they choose, the perspective towards the services becomes much more generic.

Since the origins of these services, particularly automated services, are often not visible to users, the services are said to operate in "backrooms." An example from Ontario is an automated student financial needs assessment service which one university operates for a community college for an annual fee. The service is an adaptation of the university's service for its own students. As far as the students at the college know, it is their own service without connection to any other institution.

These "backroom" generic arrangements could of course operate without RCB/RCM. But RCB/ RCM creates a much stronger disposition towards thinking in terms of acquiring services from a wider variety of sources, and of benchmarking in terms of "best in class" whereby a university's purchasing department might be compared to that of a manufacturer or a hospital instead of to that of another university (Rush, 1994).

Problems and disadvantages of RCB/RCM

RCB/RCM may assume more knowledge of costs than an institution might actually have.

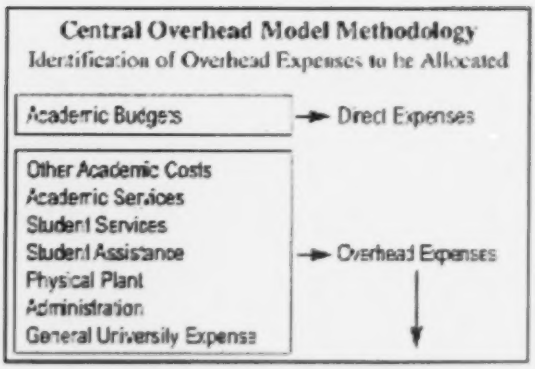
If the implementation of RCB/RCM at the several universities that have deployed it were to reveal only one thing it would be that the accurate determination and attribution of indirect costs and overhead is absolutely essential and very demanding. The problem has several dimensions.

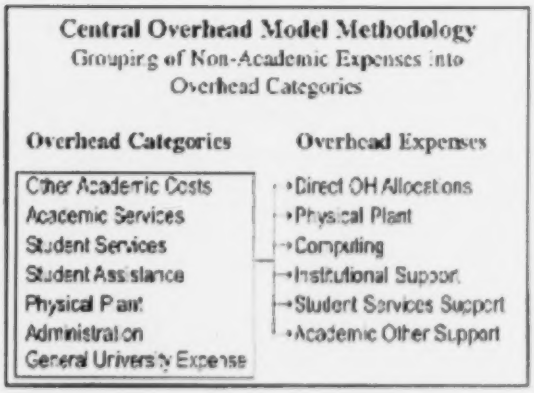
First, there must be a standard methodology for determining overhead costs. By "standard" one should understand the methodology to apply to all programs and services. This does not mean that the overhead rates would necessarily be uniform, but it does mean that every rate should be determined in the same way.

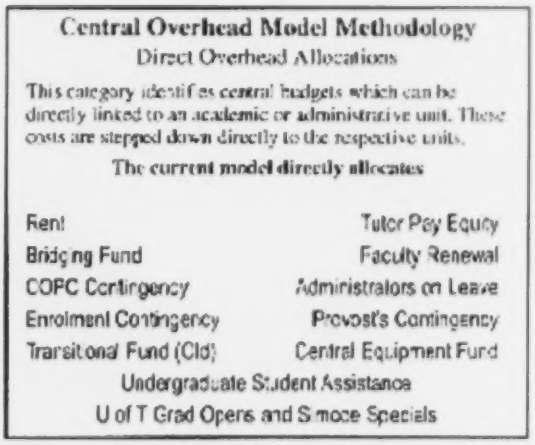
The following series of tables from the University of Toronto outline the basic steps that a methodology for identify overhead expenses comprises. Although indirect costs and overhead costs are not exactly the same, in this example and in the application of RCB/RCM generally,

they are dealt with as if they were the same. The differences are mainly in terms of how the costs are attributed.

There are two important reasons for using a standard methodology. Deans of faculties and heads of services, at least initially, will almost always question the rates as being too high. These administrators must be confident that the rates are determined consistently across the university. The other reason is that the fiduciary interest in RCB/RCM depends on there being a reconciliation of all costs and incomes across the institution. The deployment of different methodologies could make such a reconciliation impossible.






Central Overhead Model Methodology
Direct Overhead Allocations
This category identifies central budgets which can be directly linked to an academic or administrative unit. These costs are stepped down directly to the respective units.
The current model directly allocates
Rent
Bridging Fund
COPC Contingency
Enrolment Contingency
Transitional Fund (Old)
Tutor Pay Equity
Faculty Renewal
Administrators on Leave
Provost's Contingency
Central Equipment Fund
Undergraduate Student Assistance
U of T Grad Opers and Simcoe Specials

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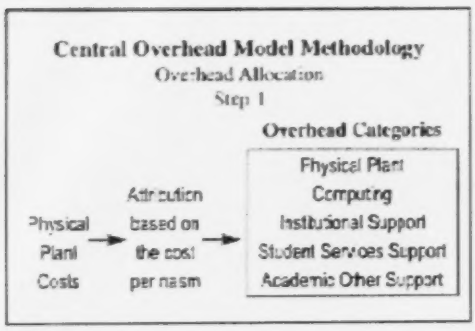

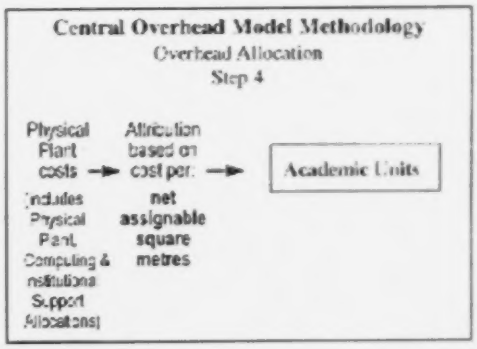

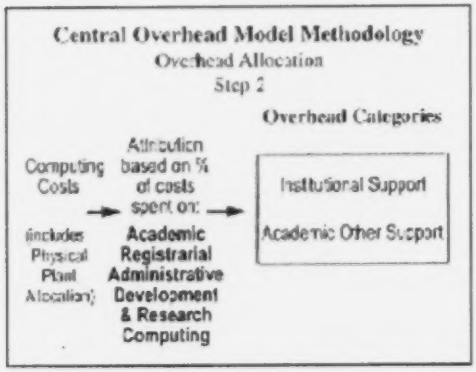

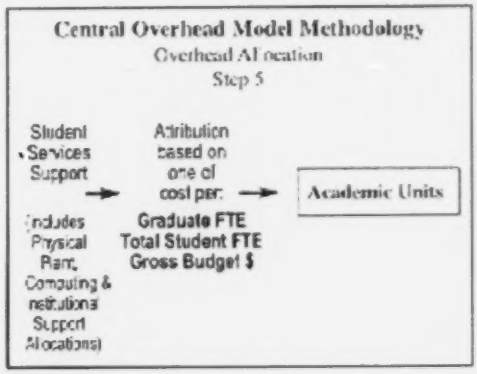

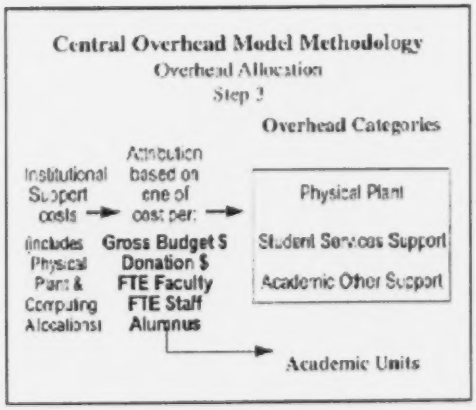

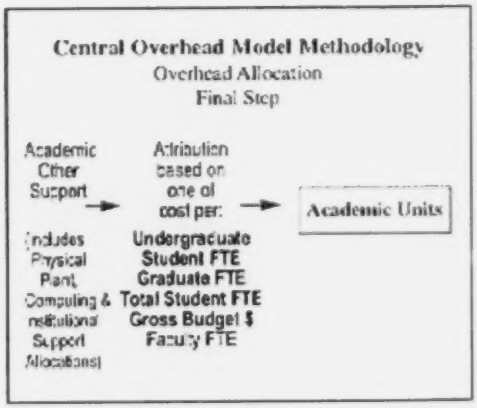

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Methodologies for allocating costs and revenue under RCB/RCM often are not readily available "off the shelf." Most universities that have implemented RCB/RCM report that it can take as many as 18 to 24 months to devise and apply overhead allocation methodologies. For a university facing an immediate and urgent financial crisis, that could be too long to wait.

Second, the methodology must be accurate and inclusive as well as comprehensible — characteristics that often work against one another. But it is nevertheless necessary that the methodology be sufficiently understandable to be credible and to be predictable. Predictability, although apparently a mundane technicality, is essential. A fundamental hope of RCB/RCM is that once cost structures are known, income and expense attributed, and authority delegated, the heads of academic programs and administrative services will seek to minimize those costs and maximize the revenue. So, for example, a dean needs to understand the overhead methodology well enough to know how the overhead rate of his or her faculty might change if it were to occupy less space, reduce its academic complement, or add students. If the methodology cannot pass these tests, RCB/RCM will be little more than an elaborate and expensive accounting exercise.

In terms of comprehensibility and comprehensiveness, it is important to understand that budgets determined under RCB/RCM actually look different from those set under traditional planning and budgeting regimes. Sometimes the differences are large and surprising.

Table 1 displays the budget of the business school at the University of Michigan before and after the introduction of RCB/RCM, which at the University of Michigan is called "Value Centred Management." The first panel in the table comprises the sources of revenue available to the business school. Note particularly that under RCB/RCM the school receives no allocation from the university's general fund but it does receive all of the tuition and fee revenue that it generates.

Table 1

UNIVERSITY OF MICHIGAN BUSINESS SCHOOL
Sources and Uses of Funds
Traditional Budgeting, 1995-96
VCM Budgeting, 1995-96, 1996-97 and 1997-98

The Business School	ACTUAL Traditional 1995-96	% of Total Sources	SIMULATED VCM 1995-96	% of Total Sources	PROJECTED VCM 1996-97	% of Total Sources	PROJECTED VCM 1997-98	% of Total Sources
SOURCES								
General Fund	26,784,540	36.2	29,216,490		31,441,297			
Provost's Allocation			5,187,765	6.8	6,129,273	8.0	5,129,273	5.4
Tuition and fees			36,180,486	38.7	37,629,693	41.4	39,344,776	40.3
General fund transfers	[44,798]	(0.1)	[44,798]	(0.0)	0	0.0	0	0.0
VPAA GF transfers	1,437,448	2.2	33,231	0.0	900,000	1.0	[48,000]	(0.0)
OVPR GF transfers	3,600	0.0	3,600	0.0	50,000	0.1	5,000	0.0
Federal grants/contracts (Direct)	1,481,307	1.9	1,481,937	1.6	2,040,000	2.2	1,500,000	1.5
Federal grants/contracts (Indirect)	384,667	0.5	384,667	0.4	693,000	0.8	366,000	0.3
Non-federal grants/contracts (Direct)	2,218,153		2,218,153	2.4	1,040,000	1.1	1,000,000	1.1
Non-federal grants/contracts (Indirect)		0.0	0	0.0	0	0.0	100,000	0.1
Cost-sharing transfers	28,625	0.0	28,625	0.0	50,000	0.1	[10,000]	(0.0)
Gifts	9,358,286	11.4	9,358,286	10.0	11,040,000	12.1	11,000,000	11.5
Endowment income	2,494,139	3.0	2,494,139	2.7	2,540,000	2.7	2,650,000	2.7
Investment income	2,491,302	2.9	2,491,302	2.6	2,760,000	3.0	2,630,000	2.7
# External department revenue	28,358,849	34.5	28,358,849	30.3	35,000,000	37.5	28,000,000	29.4
Internal departmental rebillings	3,936,137		3,936,137	4.2	2,000,000	2.2	4,000,000	4.2
VCM revenue to support student svcs			0	0.0	0	0.0	0	0.0
VCM revenue to support research admin.			0	0.0	0	0.0	0	0.0
VCM revenue to support general admin.			0	0.0	0	0.0	0	0.0
VCM interest to be paid on balances			444,693	0.5	468,768	0.5	471,717	0.5
TOTAL SOURCES	82,753,074	100.0	93,483,557	100.0	90,924,479	100.0	95,182,766	100.0

The Business School	ACTUAL Traditional 1995-96	% of Total Uses	SIMULATED VCM 1995-96	% of Total Uses	PROJECTED VCM 1996-97	% of Total Uses	PROJECTED VCM 1997-98	% of Total Uses
USES								
Faculty salaries	19,892,640	27.1	19,892,640	27.3	21,000,000	28.0	23,000,000	28.7
Research scientist salaries	65,302	0.1	65,302	0.1	0	0.0	45,000	0.1
GSA salaries	823,679	0.9	823,679	0.8	950,000	0.9	870,000	0.8
Staff salaries	11,873,353	15.1	10,873,353	15.2	12,460,000	16.6	12,500,000	15.6
Fringe benefits	6,030,932	8.4	6,019,932	8.5	6,650,000	8.8	6,700,000	8.4
# Tuition grants	1,084,343	1.5	1,084,343	1.5	1,100,000	1.5	1,100,000	1.4
# Unrestricted aid	6,460,958	9.0	6,459,928	9.0	6,000,000	8.0	6,500,000	8.1
# Unrestricted financial aid	8,017,877	11.1	8,017,877	11.2	6,000,000	8.0	7,500,000	9.4
Supplies	2,702,501	3.8	2,742,501	3.8	2,600,000	3.5	2,600,000	3.2
Travel	2,345,127	3.3	2,345,127	3.3	2,600,000	3.5	2,600,000	3.2
Internal utilities services	6,701,251	9.3	6,701,251	9.4	6,600,000	8.8	7,600,000	9.4
External contracted services	5,452,815	7.6	5,352,715	7.5	5,000,000	6.7	5,300,000	6.6
Miscellaneous expenses	0	0.0	0	0.0	0	0.0	0	0.0
Inventory acquisitions	849,553	1.2	849,553	1.2	1,500,000	2.0	1,500,000	1.9
# Equipment	384,667							
# Indirect cost recovered	418,795	0.6	418,795	0.6	1,500,000	2.0	1,000,000	1.2
# Transfers to construction	427,401	0.7	497,401	0.7	250,000	0.3	1,500,000	1.9
# Net transfers			71,570,088	100.0	75,000,000	100.0	80,115,000	100.0
TOTAL UNIT OPERATIONS	72,154,656	93.1						
OFA/Rackham financial aid			1,220,172	1.7	1,318,647	1.8	1,419,917	1.8
VCM costs for student services			1,793,011	2.5	1,955,043	2.7	1,974,723	2.5
VCM costs for research administration			67,011	0.1	68,871	0.1	80,423	0.1
VCM costs for general administration			5,470,176	7.6	5,534,680	7.4	5,638,431	7.0
VCM costs for facilities			1,981,256	2.8	2,130,857	2.8	2,103,857	2.6
University Participation			1,287,130	1.7	1,293,813	1.7	1,951,313	1.7
TOTAL VCM COSTS	72,154,656	100.0	83,359,139	116.3	87,322,870	116.4	92,520,467	115.1
Unit Excess (Deficit)	10,134,219		10,124,219		3,601,797		2,662,299	
TOTAL new VCM allocated costs			11,839,360	16.5	12,322,670	16.4	12,833,467	15.1

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The second panel displays the uses or spending of the revenue that is attributed to the business school. Here again the "before and after" contrast is in certain cases very significant. For example, the school's budget under RCB/RCM includes over $2.1 million for the costs of the space that the school occupies. Prior to the introduction of RCB/ RCM use of the school's facilities was a free good to the faculty. The costs were invisible.

Overall, the revenue and expense of the school of business at the University of Michigan under RCB/RCM were approximately 17 per cent higher than previously, and both included items that had never before been part of the school's budget or had even been apparent to the school (see Table 1).

Third, the methodology must be replicable. If managers do indeed try to reduce overhead and indirect costs by various means, the RCB/RCM methodology must be sufficiently reliable and robust to allow manipulation and periodic recalculation.

Some methodologies take the form of formal protocols that encompass literally every aspect of institutional revenue and expense from all funds. Here are some examples from actual protocols at various universities that have introduced RCB/RCM:

- Student Services Administration

  Distribute [costs] based on weighted student headcount: Undergraduates = 1.0; Graduates = 0.5; Graduate-Professional = 0.25. The weightings represent our [The University of Michigan] belief that the services provided by these offices are predominantly for undergraduate students but that graduate and professional students also benefit from some subset of the full range of services.

- Library

  The proposed algorithm does not break down the library. Instead it distributes the total budget as a whole. The model is based on the premise that faculty and students at the University [of Pennsylvania] are the primary users of the library. Therefore . . . 50% of the total library budget is distributed based on the number of paid faculty . . . and the remaining 50% based on the number of course units taught.

- Physical Plant

  The physical plant costs associated with the institutional mission [of the University of Minnesota] are allocated to the collegiate units based upon a . . . calculation using the assigned square footage. This basis is derived from a [data] file . . . which provides a listing of instructional activity by building, room number, collegiate unit, course and contact hours per week. This file is linked to other data bases to obtain a basis consisting of the cost of the classroom space used by the unit plus the cost of the space that the unit "owns."

- Student Information Systems

  The SIS budget will be subdivided into the following three expense categories: student-related; course-related; and divisional production requests. The student-related expenses

> will be attributed to academic divisions [of the University of Toronto] on the basis of student headcounts. Course-related expenses will be attributed to academic divisions on the basis of the number of courses. Divisional production requests will be allocated to each academic division on a cost per production request.

When one considers the scale and diversity of university budgets, especially those of large research-intensive institutions, the importance and the complexity of RCB/RCM protocols like these become simultaneously apparent. RCB/RCM cannot work successfully without them, but they represent, in terms of time if not money, a very large up-front investment in the RCB/RCM process.

RCB/RCM protocols also involve what might be described as a taxonomy of institutional programs and services. It is not facetious to observe that under RCB/RCM not every program or service can be a responsibility centre. In some respects this observation is a matter of pragmatic common sense. Many programs and services do not and cannot generate revenue. Others do not really deliver a final complete product; they exist only to support other programs that do. In terms of management and organization, the mission and purpose of programs and services — and, in turn, of the institution — could be seriously distorted if every unit behaved as if it were a responsibility centre, in which case the tail would often wag the dog and the RCB/RCM would amount to little more than an elaborate budgetary tautology.

So, another part of the RCB/RCM methodology is a process by which the status of each unit — academic and administrative — in the institution is classified. The following table (Table 2) from the University of California at Los Angeles (UCLA) illustrates an RCB/RCM taxonomy. In the UCLA methodology, "RC" means Responsibility Centre; "AC" means Auxiliary Centre; and "SC" means Service Centre. Responsibility Centres are in virtually all cases academic divisions. In the UCLA example, environmental health and safety ("EH & S") radiation safety services are a Service Centre. An Auxiliary Service (which in Canadian universities might often be called an "ancillary service") is one which is operated on an actual or nominal self-funded basis. A bookstore, student residence, or soil testing service is a good example.

Under REB/RCM, the direct, indirect, and overhead costs of Service Centres and Auxiliary Centres are allocated to Responsibility Centres as the indirect and overhead costs of those centres, and the net budgets of the Service and Auxiliary Centres become zero.

Table 2

Allocated Expense Changes

	Original Allocation Basis (v. 3.0)	Current Allocation Basis (v. 4.0)	Proposed Changes to Allocation Basis	Notes	RC's	AC's	SC's
Ground Rent	Assignable square feet	Assignable square feet		Of campus space where land was purchased with the property rental was charged/credited	YES	YES	YES
Operating Cost for Space							
Police / Community Safety	Assignable square feet	Assignable square feet		Currently allocates 100% of net costs (total expenses less total revenues). Need to define core level of service to be allocated	YES	YES	YES
EH&S / Radiation Safety	Assignable square feet	75% on ASF plus 25 on Contracts & Grants Revenue		Includes EH&S 3400 & Radiation Safety 3402) Need to refine	YES	YES	YES
Other Space Operating Cost	Assignable square feet	Assignable square feet (placeholder for State-funded ASF - Need ACs and residents)	State-funded assignable square feet	Includes all Facilities Mgmt departments. Need to define core level of service to be allocated	YES	No - 3	YES
Replacement Reserve	10 Categories of Space x assumable value	10 Categories of Space x assumable value			YES	No - 1	YES

No - 1. Already have self-funded replacement reserves
No - 2. Do not receive service from this org.
No - 3. Fees for this org. are already charged directly and are included as direct expenses
No - 4. Organization should not receive allocated expenses but may have some charges- future refinements to the model will correct

RCB/RCM requires high level supporting financial information systems.

The capability to allow manipulation and recalculation of RCB/RCM overhead and indirect costs rates depends as much on the availability of reliable and accurate data as on the methodology. While most new financial information systems available from a number of vendors — SAP, SCT/Banner, PeopleSoft — are capable of supporting RCB/RCM, some older systems are not. The new systems are expensive. Despite the advantages of RCB/RCM, they might not be sufficient on their own to justify such large scale investments.

Although RCB/RCM inherently involves extensive delegation of authority, and that delegation is essential to the full realization of the advantages of RCB/RCM, it does not relieve the senior administration and the board of governors of their fiduciary responsibilities. Nor should it. Financial liabilities cannot be delegated. Debt is in the end the institution's responsibility. As well, good faculty managers must be protected from incompetent ones, or, more exactly, from the financial consequences of their incompetence.

The implication of all of this is that the institution's financial information system must have a strong and reliable audit capability to give early warnings of poor management at the faculty

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level. RCB/RCM inherently increases business risk. In this sense RCB/RCM introduces a new demand on financial information systems.

RCB/RCM may demand more local managerial skills and appetites than may actually exist.

RCB/RCM is as much a managerial system as it is a planning and budgeting system. This is why the architecture and methodology of RCB/RCM must be comprehensible and robust. The tradition of leadership in university faculties and departments depends primarily on scholarly reputation and only coincidentally on administrative skill (Keller, 1983).

Conventional budget planning and management systems are largely centralized and supported by professional financial managers. While the demands that those systems make on the heads of faculties and colleges are not frivolous, neither are they unusual, onerous, or difficult to comprehend. But RCB/RCM in practical effect invests college principals and faculty deans with the responsibilities of CEOs, which for many academic administrators is a new concept. Most of them are not prepared for such responsibilities. Many do not want to assume them. Virtually none of them was selected and appointed on the assumption that he or she would have to carry out such responsibilities (Blau, 1994).

In other cases the role of the college principal or faculty dean has not changed in order to meet the demands of managing under RCB/RCM but the support staff at the college or faculty level has. In at least three universities that have installed RCB/ RCM, senior financial staff from central administrative offices have relocated to divisional offices in order to support RCB/RCM. The overall result is often an unfortunate mismatch between the capabilities of RCB/RCM on one hand and on the other hand the skills and dispositions of those would use it.

The solution does not lie in reforming or modifying RCB/RCM. The problem is generational. The successful implementation of RCB/RCM may require considerable patience, enough patience to wait for a new generation of academic leadership. Successful implementation may also require additional salary expense for those leaders as they are asked to assume responsibilities and have skills that their predecessors did not.

For publicly-funded institutions there may be an asymmetry between government funding formulas and actual institutional cost structures.

In the United States and Canada many if not most schools, colleges, and universities are funded under allocative formulas. There are different types of formulas, each with its own strengths and weaknesses. Some formulas are used in conjunction with other allocative schemes like, for example, performance budgeting. But despite these differences, funding formulas have one thing in common: in one way or another they all make assumptions about institutional cost structures. Some also make algorithmic assumptions about certain forms of income, most notably tuition fees.

The validity of those assumptions is often debated, but valid or not they are inherent to funding formulas and can have a complicating effect on the successful deployment of RCB/RCM. Under

RCB/RCM all revenue and all costs are attributed to each faculty or college. Each unit must then adjust its spending patterns to coincide with its revenue patterns. That is the basic idea of "each tub on its own bottom."

The idea is simple enough until one considers the possibility, if not the probability, that large components of revenue may be based on assumptions about costs which are either erroneous to begin with or so generalized that they cannot be validly applied to specific programs in specific institutions. Funding formulas have a powerful homogenizing effect; they are based on averages that treat all programs within certain categories as the same. Therefore for any given program in any given institution under RCB/ RCM, the attribution of income may be accurate but may also be unrealistic. It may also assume that the correlation between enrolment and cost is linear when in practical fact it may proceed according to a complex series of step functions unique to each institution. Some universities that have introduced RCB/RCM correct for this by not attributing all income to colleges and faculties. Some is held back and allocated by other means, often and ironically by the same means that preceded the introduction of RCB/RCM. Others correct for the artificial effects of funding formulas by inserting a local formula between the system formula and the RCB/RCM attribution process.

A similar asymmetry may exist within institutions as well if the institutions use internal formulas for making budget allocations (Otten & Savenije, 1990). It is not uncommon for large universities to make allocations according to a series of ratios, for example the number of academic staff to students. The ratios thus constructed are essentially averages that may be appropriate to some faculties but not to others. Thus it might be more accurate to observe that RCB/RCM does not mix well with allocative formulas at any level.

This, of course, is a problem that is in the end part of the case for RCB/RCM. If the linear nature of allocative formulas and the averages that they create are too highly aggregated to reflect local cost structures accurately, just as too highly centralized administrative structures do not have enough sapience to know those structures, a move to RCB/RCM removes all assumptions, to continue the example, about staff: student ratios and allows each faculty or department to set its own ratio.

Service teaching and RCB/RCM are not always compatible.

From the earliest days of universities one of their roles has been to play a mercantile role among academic disciplines (Haskins, 1923). So today in the multiversity, for example, mathematics departments teach courses for physics departments which in turn teach courses for engineering programs. Curricular regulations make express provisions for elective courses. The variety of permutations and combinations among programs and courses is regarded as a strength of the modern university. Through curricular regulation universities encourage specialization and in a practical sense guarantee markets. Institutional planning and budgeting processes recognize these arrangements by allocating resources to protect high quality programs that otherwise might not be able to support themselves (Kissler, 1997; Vandament, 1989).

RCB/RCM can work against this tradition as individual programs and departments compete with other programs and departments for students, mainly because they do not want to share the revenue which the enrolments generate. But it may also be the case that cost structures — for example, age/salary profiles — may vary among programs and departments, thus causing some programs and departments to "repatriate" courses and offer them themselves. In terms of cost reduction, this consequence might be desirable. In terms of educational quality, the results might be unfortunate, as might have been the case in one university where the faculty of forestry decided to offer its own courses in "English for Foresters."

Another of the effects of RCB/RCM on service teaching, although complicating, reveals and elucidates some of the basic logic of RCB/RCM. The question is about the proper attribution of the income and expense that service teaching generates. The conventional approach — which might be taken even if RCB/RCM were not deployed — is to assign the costs of service teaching to the faculty that provides it. That makes sense from an accounting point of view, which indeed is the point of view of RCB when viewed apart from RCM. It then follows that income ought to be as closely aligned with expense as possible. So the revenue that enrolments in service courses generates is attributed to the faculty that provides the service teaching.

But an ultimate objective of RCB *cum* RCM is to generate revenue, encourage market-like behaviour, and improve the fit between educational supply and demand. Seen from this perspective, the attribution of revenue ought to be to the faculty that decides on critical balances between enrolment, programs, and resources, and then recruits and registers students, even though some of those students might take some courses in other faculties. The cost of service teaching then would appear as a charge by the faculty that provides the service teaching against the expense budget of the faculty that registers the students and is credited fully for the revenue that they generate.

RCB/RCM also creates markets internal to the institution. In the case of service teaching it is important to consider what is supply and what is demand. The faculties that recruit and register create a demand for service teaching. Provided there is sufficient academic justification, those faculties have a real choice between either offering an entire program themselves or by offering it partially through service teaching provided by other faculties. The reverse is not practicable: providers of service teaching cannot require that their courses be included in other faculties' programs, in other words the supplier cannot have the upper hand. Instead, and also within the basic logic of the RCM side of the RCB/RCM equation, demand in the internal market creates an incentive for faculties that supply service teaching to reduce and control costs, and not simply pass any costs along to other faculties.

Summer sessions in some cases occupy a position comparable to that of service teaching under RCB/RCM. In institutions where the summer session is not a trimester in an integrated twelve month academic calendar, the summer session is an add-on to academic programs much as service teaching is. The summer session has a separate budget and administration. The expense budget is used in practical effect to make internal purchases of instructional time from faculties and departments. Conventional budget and planning regimes attribute income and expense to the summer session instead of to the faculties and departments that provide the instruction and,

frequently, the classrooms and instructional laboratories that the summer session physically occupies.

Under RCB/RCM the centre of budgetary planning and management shifts to faculties and departments and away from the summer session administration. The reasoning behind the shift is logical: ultimately, once the cost of organizing and promoting the summer session is set aside, virtually all of the resources that support the session are in the faculties that provide the instruction. While the organizers of summer sessions might find this threatening, it might also improve institutional performance and decision-making as faculties and departments determine the best calendar locations for various courses and gain a better understanding of average costs versus marginal costs.

While RCB/RCM can relocate decision-making to levels most capable of making certain decisions, it does not ensure that those decisions will be made at those levels.

One of the attractions of RCB/RCM is that it offers the possibility of improving the making of difficult, highly complex decisions. Regardless of the quality of those decisions, they are often very unpopular. Because those decisions are unpopular, senior managers, whether at the institutional, divisional, or departmental level, are inclined to avoid making them. Under conventional planning and budgeting schemes, responsibilities for making certain decisions are organizationally assigned. The responsibilities are difficult to avoid.

But RCB/RCM has an inherent capacity for decision-making "cascades." Just as a university may attribute costs and income to the faculty level, a faculty may assign them to the departmental level, and so on to centres and programs within departments. RCB/RCM by its very nature forces decisions; there couldn't be budgets without them. Thus decisions will ultimately be made at one organizational level or another, and the budgetary consequences of those decisions will be clear.

What might be less clear, however, is the quality or "sapience" of those decisions if the downward cascade does not stop at the level at which the greatest competence and knowledge to make them resides. In other words, the positive correlation between the expansion of RCB/RCM and the quality of decision-making is not infinite. There can be a point at which the expansion of RCB/RCM to lower organizational levels leads to a decline in the quality of decision-making.

RCB/RCM requires new regulatory arrangements.

While the description of universities as "organized anarchies" (Cohen & March, 1974) may be an overstatement, it is true that faculties and departments enjoy considerable degrees of autonomy, especially in terms of who teaches what to whom, appointment of faculty, selection of students, and determination of curriculum. RCB/RCM can expand that autonomy, and in so doing engender greater internal competition among colleges and faculties. When that happens, RCB/RCM needs some sort of forum for local dispute resolution.

Just as nation states have means of curbing the potential excesses of capitalism, universities that deploy RCB/RCM look to similar public regulatory arrangements. One such arrangement is the academic counterpart of a "fair trade commission" which would regulate, for example, the repatriation of service courses and the intra-institutional competition for students. The commission would also ensure that admissions standards would not be compromised to meet unrealistic enrolment and income targets, or that programs inconsistent with institutional missions would not be introduced.

Another regulatory arrangement is similar to a "public utilities commission" which regulates prices and common services. While one first thinks of revenue generation under RCB/RCM as being aimed at enrolment, tuition fees, research grants, consulting income — all essentially external to the institution — RCB/RCM also results in a wide array of internal charges and cost attributions. Some of those charges can be virtually monopolistic, just as a hydro service, or telephone service, or cable television service might be. While RCB/RCM can identify costs with precision, and ensure their attribution, it cannot control or validate those costs. The institutional public utilities commission can, and in turn prevent what otherwise might be described as price gouging.

An institutional public utilities commission can play another role that is also found in the broader economy. As costs are identified and attributed, some academic programs and administrative services may wish to withdraw services that they provide to other parts of the institution, as airlines often wish to do in regard to locations in underpopulated areas. Universities that use RCB/RCM may have to introduce means of regulating the provision of basic services.

While the metaphor of public commissions is apt in describing the roles that they play in deploying RCB/RCM, the role does not necessarily require formal organizational structures. In a number of cases, this is a role played by the chief academic officer.

Installing RCB/RCM

Costs and Prices under RCB/RCM

Market driven pricing requires a long-term commitment to RCB/RCM and in turn a long-term comprehension of markets and programs costs.

RCB/RCM has the effect of stimulating, if not practically requiring, market behaviour at levels within university organization at which such behaviour often is rare. Faculties and colleges have little experience in making decisions about setting prices for their programs and services, and in ensuring that those prices bear a realistic relationship to costs.

For academic degree programs there is a natural tendency to set prices — that is, tuition fees — at whatever levels the market will bear. Although the basic idea is simple to perceive, its implementation is subtle, complex, and slow to evolve. Haste is an enemy of market driven pricing under RCB/RCM. For example, lower tuition fees might support an increase in enrolment, which in turn will produce additional revenue. But increases in enrolment might also produce additional costs. The relationship between enrolment, costs, and prices, however, is not

always linear. Thus market-driven pricing might be successful in the short-term but unsuccessful in the long-term, or vice versa.

In the private sector firms often devise careful strategies for developing, introducing, and pricing new products. Those strategies — for example, Dupont's plan for introducing its miracle fabrics — are sometimes aimed at dominating a market for a long time, in which case initial prices are not necessarily set at the highest possible levels. Instead the break-even point of income over expense might be as long as three years into the future, with the expectation that the new products will demand large market shares for as long as a decade. The alternative strategy is to recoup development costs by setting prices as high as possible as soon as possible, which was the case in the introduction of computer technologies. The latter strategy is usually not available to universities because most degree programs, when construed as products, have very long gestation periods.

The point of these examples is not to suggest that there are strong analogies between higher education and the development of new products in the private sector. The point is that as universities introduce RCB/RCM (or other regimes that are highly market driven) they must take as much care as private firms do in determining price strategies and, especially, their time frames. A short horizon is likely to produce deceptive illusions and plant the seeds of future financial distress. RCB/RCM is not a real solution to short term budget problems, their severity notwithstanding. It is a long-term strategy aimed more at the quality of decision-making about the allocation and generation of resources than at the speed with which resources can be reallocated or generated.

Cost driven pricing requires detailed and complete understanding of costs, and of the tolerance of markets to bear those costs. The relationships between costs and time are acute.

That prices should in some way reflect costs is common sense. It is not, however, widespread common sense in higher education. This is not without reason.

First, some tuition fees are so low as a proportion of cost that they do not really function as prices in an economic sense. Second, degrees have prices in the form of tuition fees, but few colleges or universities are organized exclusively around degree programs in terms of their costs structures. Instead, faculties and departments have several roles: instruction — frequently comprising more than one degree program — research, continuing education and professional development, consulting, and other forms of public service. More significantly, despite a wide range of roles, faculties and departments are supported by single budgets and pools of resources. Attempts to institute PPBS (Planning, Programming, and Budgeting Systems) in higher education have usually met with failure (Balderston & Weatherly, 1972). A private firm's understanding of what constitutes a "cost centre" can be quite different from the comparable understanding in educational institutions in the public and not-for-profit sectors.

One of RCB/RCM's great strengths is that it demands a clear and complete appreciation of costs and the structures that drive them. But, as in the case of market driven pricing, time can make a major difference to an understanding of prices as costs. When new degree programs are

introduced or existing programs significantly expanded, they do not reach their steady states for several years. The relationship between income and cost will change each year as the program progresses to its new steady state. In any given year, prices can exceed or fall short of annual costs while matching the average costs that obtain in the steady state.

Most colleges and universities operate on the principle that prices for self-funded programs must at least cover costs, whether or not markets will bear those costs. Costs thus determine the lowest allowable price. This is often regarded as a sound "tough love" practice through which management lessons learned in the private sector are applied in the public sector. But for some programs that approach may be unrealistic from the start, especially for highly specialized programs with low enrolments and for programs with anomalous costs structures (for example, faculties of dentistry that must operate their own clinics without third-party subvention). New programs hardly ever are able cover their costs in the first two or three years of operation because start-up costs and incomplete enrolments — 25 per cent in the first year, 50 per cent in the second, and so on — are inherently asymmetrical.

There are ways in which these innate problems can be addressed under RCB/RCM. One is to impose a tax — although that term is not often used formally — on all programs and services in order to fund what amounts to subsidies to certain programs that for one acceptable reason or another cannot cover their full costs. Another is to retain certain income centrally and not attribute it to faculties and programs. This approach is attractive in jurisdictions in which public funding formulas or other allocative schemes do not lend themselves reliably to attribution below the institutional level, as is the case with "infrastructure" grants made by research councils.

Another approach for viewing costs in a broader time frame and thus allowing stronger links between planning and budgeting under RCB/RCM is to make express provisions for internal debt. This approach makes particular sense for the introduction of new programs, sometimes for the closure or radical restructuring on existing programs, and for major capital investments, for example, in laboratories. In those early years in which costs exceed income or savings, the institution can make internal loans to faculties. The loans are real in the sense that the repayments include interest charges as well as principal, and the repayment schedules are built into faculty budgets as any other expense would be, whether or not the institution itself actually incurs an external debt to a lending institution. In cases in which no external debt is incurred — for example, when the institution uses quasi-endowed funds or cash floats — the internal interest rate is set as an opportunity cost.

Finally, a too rigid or too literal application of the "prices as costs" approach under RCB/RCM runs the risk of driving wedges between activities that should not be organizationally separated. While there are many legitimate debates about whether or not research and instruction should be funded separately and differently from one another, there is a consensus that they complement one another. In most universities faculty are expected to do both, and many facilities and services — libraries, for example — are expected to serve both. RCB/RCM does not require or force the compartmentalization of instruction and research but it does have momentum in that direction against which the institution at large must guard.

At what level should RCB/RCM set prices: by institution, by faculty, or by program?

In the first instance this is an important technical question because it defines the nexus between income and expense. Under RCB/RCM it is a question that must be answered one way or another; it cannot be evaded or deferred. But the question also has much to do with institutional mission, academic organization, and overall financial viability.

Most universities are in fact in several markets: the market for undergraduate degrees in engineering, for example, is not the same as the market for MBA degrees, and so on, even when offered by the same university. This, of course, explains why most (but not all) institutions have schedules of tuition fees with different fees for different programs. But there are other explanations which RCB/RCM tends to expose and emphasize, especially in publicly funded institutions.

First, tuition fees and some other institutional charges and fees have internal as well as external reference points. A comparison of public institutions with high average fees and those with low average fees shows that the ratios among fees are quite similar (University of Toronto, 1996). So, for example, the fee for an MBA program is usually about two times higher than the fee for a BA program within the same institution regardless of the absolute values of the particular fees in question. This phenomenon may be due as much to government regulation as to institutional policy but the main point in regard to RCB/RCM is that individual faculties and programs may not be able to set their tuition fees entirely independently of other faculties and programs. This suggests that revenue strategies under RCB/RCM may be based more on volume than on prices.

Second, in publicly funded systems of higher education diversity among institutions and programs is often highly sought after but difficult to realize. Institutions often create and support diversity by deliberately deploying "cash cows" and "loss leaders." These are, of course, crass terms that few institutions would openly avow and which no government funding formula recognizes, but the practice exists de facto nevertheless. Programs of very high quality or programs of central importance to a university's mission or reputation are subsidized by programs that may be of lower quality but are more profitable, either because of demand that allows higher fees or because of lower costs. Many governments, especially in Canada, tacitly recognize this by providing funding through block grants.

But RCB/RCM has a tendency towards discouraging diversification that is engendered in this way. This is another reason why some institutions that have deployed RCB/RCM have at the same time introduced various means of internal taxation and cross-subsidization. One must ask, however, whether or not the efficacy of this practice is infinite. In some institutions, the dampening of the connection between the revenue generated by a college or faculty and the actual resource base available to it has become so great that incentives generated by RCB/RCM are weak, which in turn discourages local interest in RCB/RCM.

RCB/RCM and Institutional Plans and Mission Statements

The proponents of RCB/RCM correctly point to its capacity to encourage planning, especially strategic planning, down to the grass roots levels of educational institutions. The proponents of

mission statements usually categorize them as a form of strategic planning (Bryson, 1988; Schmidtlein, 1989). Some would go on to say that mission statements — both as process and device — are key elements in successful strategic planning (Kotler & Murphy, 1981). This juxtaposition suggests that the introduction of RCB/RCM as a planning and budgeting process should have an effect on mission statements. This does not necessarily mean that an institution that installs RCB/RCM will have to change its mission, but it may mean that the form of the mission statement will have to change, as might the means by which the institution determines its mission.

As ubiquitous as the term "mission statement" is in educational planning, it is not always understood with precision. There are in fact several different kinds of mission statement which have be used in higher education (Lang & Lopers-Sweetman, 1991). A brief taxonomy would include the following:

- mission statements as the clarification of goals
- mission statements as smoke screens for opportunism
- mission as descriptions of things as they are
- mission statements as aspirations
- historical and philosophical justifications of the status quo
- plans for action
- interrogations which set an agenda for planning
- expressions of scale and capacity
- messianic presidential tablets
- anthologies of missions

For some of these forms of mission statement, the institution's processes for linking plans and budgets — which is what RCB/RCM does — are not fundamentally relevant. The two can co-exist whether or not they actually interact. For other forms, the relationship is symbiotic. And for other forms the two are incompatible to the point of dysfunction.

RCB/RCM to a large degree rules out the *messianic tablet* type of mission statement. This type of mission statement is usually closely identified with the institution's president or chief academic officer, and is expressed in personal terms. It has a philosophical bent and typically describes a plan for institutional reformation or reorganization. The messianic tablet mission statement is the epitome of "top down" planning. This type of mission statement is incompatible with RCB/RCM because its centralized, top down character does not mesh with the high degree of delegation that RCB/RCM entails. RCB/RCM inherently invests less control in central administrations.

Whether determined top down by presidents or as *action plans*, mission statements that require fundamental institutional redirection in short periods of time in response to external factors are also not suited well to RCB/RCM. While RCB/RCM might result in quick action by faculties and

departments, it does not force or require such action. Indeed, those faculties and departments that find themselves able to balance income and expense will have relatively little incentive to consider any change at all.

Mission statements that are *anthologies of missions* fit RCB/RCM well because of all the types of mission statement they are the ones that are formed most by broad participation from the bottom up. The anthologies are compilations of plans of various units of the institution, and thus mirror the degree of delegation engendered by RCB/RCM. RCB/RCM brings to those plans a large measure of realism in university management about what is possible and what is not.

Although mission statements are usually associated with individual institutions, there are some mission statements that operate at the system level. RCB/RCM can have a relationship to them too. The relationship depends to some extent of the means that systems used to allocate resources to individual institutions; some of those means — for example, cost based funding formulas — are more suited to RCB/RCM than others. The relationship also can depend on the fiduciary controls that systems use. For example, line-by-line budgeting so predetermines patterns of spending that RCB/RCM would be of little value at the institutional level.

RCB/RCM advances system-wide mission statements that emphasize accessibility and those that call for the reduction of costs in order to close or prevent budget deficits. By attributing revenue to individual faculties and departments, RCB/RCM creates strong incentives to increase capacity and expand accessibility. By identifying all costs and attributing them — along with revenue — to individual faculties and departments, RCB/RCM demonstrates the urgency of the need to balance budgets and forces the balancing.

Conclusion: Some RCB/RCM Dos and Don'ts

Do not expect RCB/RCM to be useful and effective in all circumstances. Its application should be specific instead of broad.

Its application should be specific instead of broad. RCB/RCM appears to be a creature of circumstance. It has so far been an effective means of addressing a number of specific contemporary problems and issues that confront some universities, and perhaps other large educational institutions as well. As funding shrinks, RCB/RCM can help improve the quality of decisions — as noxious and unfortunate as they may be — about the optimal allocations of resources and balances between income and expense.

Do deploy RCB/RCM to provide incentives towards entreprenurial behaviour and the generation of revenue.

It engenders a broad interest in planning and successfully linking plans and budgets. It provides governors and senior managers with better information about institutional performance.

Do not regard RCB/RCM as an exclusively institutional concept; it should be of more than passing interest to governments and system coordinating agencies.

The capability of RCB/RCM to promote better fits between educational supply and demand advances a public policy objective that systems otherwise can realize only by heavy-handed and often ineffective intervention. If boards of governors are better informed, they can relieve some of government's concerns about accountability, and about vexing "How much is enough?" questions. Setting concerns about accountability aside, some provinces might find that, in times of severe financial constraint, it makes better public policy to allow greater institutional autonomy by encouraging marketization which in turn will increase institutional efficiency and effectiveness, not only in controlling costs but also in attracting other sources of revenue (Berdahl, 1993). In such cases, to the extent that system administrations can have an influence on forms of institutional budgeting and planning, they should encourage RCB/RCM as an alternative to regulation.

Do not expect RCB/RCM to be a "quick fix" or inexpensive solution.

It takes time and effort to install. Sometimes it requires expensive investments in management infrastructure. It is a long-term commitment to a different management style, the benefits of which may not appear immediately and in fact might not appear until a new generation of academic managers emerges.

Do not expect RCB/RCM to be equally useful and effective in all institutions. It is best suited to large, complex, research-intensive universities and in multi-campus institutions.

In his prize-winning essay on corporate power and federalism, Charles Handy acutely describes a paradox of size that afflicts large organizations that must be large and small at the same time (Handy, 1992). While Handy is speaking about private firms, the paradox applies to large universities as well. As institutions they must centrally provide direction, set and enforce standards of quality, ensure cohesion, and create economies of scale. All of which are characteristics of being large. Accountability to governments and boards of governors is also a central responsibility. At the same time they must encourage innovation and efficiency, recognize the differences between accountability and control, and organizationally align competence with decision-making — all of which are characteristics of being small. This does not necessarily mean that RCB/RCM cannot work in smaller institutions. It does, however, mean that for smaller institutions the return on the investment in RCB/RCM might not be large enough to justify its deployment.

Do take into account the ways in which public funding is allocated to universities in implementing RCB/RCM. The success or failure of RCB/RCM can depend on the form that the allocation public takes.

Some funding formulas can so distort the connection between revenue and cost that RCB/RCM is difficult to implement without adding an extra layer of complexity between sources of funding and their ultimate allocation.

Do introduce RCB/RCM in order to improve decision-making, but do not expect it to improve all decisions.

The beneficial results of RCB/RCM are not automatic. In institutions with several levels of organizational structure, RCB/RCM could be an invitation to "pass the buck" as difficult and unpopular problems about the allocation of resources and the generation of revenue are passed from level to level without stopping at the level where they can be best made.

Do recognize that RCB/RCM, like laissez faire capitalism, can be prone to excess, and therefore sometimes need regulation.

In *The University in Ruins,* Bill Readings takes pains to draw an acute distinction between accountability and accounting, and argues that universities are in danger from regarding accounting as accountability. (Readings, 1996) RCB/RCM looks a lot like accounting with relatively little accountability for anything except the "bottom line." It is indeed true that RCB/RCM has a strong element of accounting, in fact more accounting than would normally be found in other planning and budgeting schemes. Readings and others (Wagner, 1989) go on to say that over-zealous accounting and other applications of the principles of business management to the university undermine the fundamental cultural and moral roles of the university. RCB/RCM does run this risk, but it runs it in both directions.

First, if one assumes that large, complex institutions, like some universities, are too large to be managed well from the top, and for that reason tend towards heavy-handed accounting and accountability, and formulistic allocative schemes, RCB/RCM can be regarded as a means of relocating decision-making to those levels at which fundamental roles are understood and more likely to be protected. But, second and in the other direction of risk, RCB/RCM may ensure only that income and expense are balanced without due regard to those fundamental roles. Universities that deploy RCB/RCM guard against this by creating what we have called here "fair trade commissions" and "public utilities commissions," and by holding back some revenue for allocation on the basis of quality and institutional priority.

Do not assume that RCB/RCM will necessarily or automatically emphasize quality and academic values.

In some universities that have adopted RCB/RCM there is a surprising and sometimes ironic concern about quality. The irony is that conventional wisdom presumes that the centre of gravity for concern about quality resides in colleges and faculties. Indeed, a strong reason for moving to RCB/RCM is the presumption that central administrations cannot — whether they admit it or not — make sound and fully informed decisions about the quality of individual academic

programs. The surprise is that some universities that have introduced RCB/RCM or have otherwise become highly entrepreneurial report a lack of sufficient emphasis on quality as colleges and faculties seek to maximize revenue (Clark, 1998).

Do not generalize the effects that RCB/RCM may have on collegiality and cooperation. It may be beneficial in some cases and detrimental in others.

On the one hand, RCB/RCM promotes collegiality by radically expanding the degree of participation in making crucial decisions about plans and budgets which otherwise would be made centrally at the peak of the organizational pyramid. By exposing and attributing all costs and revenue, RCB/RCM allows a far more extensive understanding within the university community of the institution's overall financial condition.

On the other hand, RCB/RCM in some circumstances engenders intense internal competition among colleges and faculties which discourages collegiality and cooperation. In the spatial terms of an organization chart, then, one might characterize RCB/RCM as promoting vertical collegiality while discouraging horizontal collegiality. As vertical collegiality grows, central administrations necessarily lose some control, particularly if they previously relied on patronage in resource allocation as a means of exerting control. It may also be that as RCB/RCM promotes vertical collegiality the idiom of that collegiality changes. In other planning and budgeting regimes, regardless of the volume of discussion between central administrations and faculties, the discussion often revolves around resources. As RCB/RCM shifts the centre of gravity of decision-making towards colleges and faculties, the idiom of collegial discourse between, for example, deans and chief academic officers, also shifts, usually in the direction academic plans, standards, and performance measures.

The Future of RCB/RCM

Finally, one must ask whether RCB/RCM is a large scale but ephemeral creation of bad financial times or of expanding institutional scale and complexity. RCB/RCM seems to be effective in improving (although not perfecting) the quality of decisions about resource allocation and generation. To the extent that those are difficult and unpopular decisions, universities are attracted to RCB/RCM because it improves decision-making and broadens participation in it. In better financial times that attraction might diminish.

Another attribute of RCB/RCM, however, is its capability to break decision-making log-jams in institutions that are becoming increasingly complex and often larger, regardless of their financial circumstances. In this case the attractions of RCB/RCM are likely to remain compelling and worthy of serious consideration.

There is perhaps an emerging third reason that explains the interest in RCB/RCM. Although much has been said for and against the entrepreneurial university (Clark, 1998; Marginson, 1997; Slaughter & Leslie, 1997) the interest in various forms of marketization and privatization is serious and legitimate. While usually associated with public policy and systems of higher

education, marketization, privatization, and entrepreneurial behaviour — in various combinations — may help individual institutions respond successfully to what Burton Clark calls "demand overload" and the asymmetry between the rates at which knowledge is created and the resources made available to sustain it (Clark, 1998). At its inception, RCB/RCM was not closely identified with entrepreneurship, but it is now clear that, intentionally or not, RCB/RCM encourages entrepreneurial or market behaviour and provides a workable organizational structure in which it can be harnessed and productively directed. This, too, suggests that interest in RCB/RCM will continue even if the financial condition of universities improves.

Since RCB/RCM has the capacity to stimulate and manage market behaviour, it can be an effective institutional response to government and other public demands for a better fit between education and economic and social need. Typically, governments and system coordinating agencies that have these concerns turn to increased regulation and prescriptive funding schemes in order to force the results that they want at the expense of institutional autonomy. RCB/RCM can be a means of producing the desired results without compromising autonomy or inviting heavy-handed government interference.

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